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File: JPAB

Jun 14, 1982

PUB-NO: JP357095624A

DOCUMENT-IDENTIFIER: JP [57095624](#) A

TITLE: HEATING DEVICE

PUBN-DATE: June 14, 1982

INVENTOR-INFORMATION:

NAME

COUNTRY

TATEISHI, NOBORU

INABA, KEIZO

ASSIGNEE-INFORMATION:

NAME

COUNTRY

HITACHI LTD

APPL-NO: JP56162871

APPL-DATE: October 14, 1981

US-CL-CURRENT: [29/25.02](#)

INT-CL (IPC): H01L 21/22

ABSTRACT:

PURPOSE: To enable pressure-reduced gaseous phase diffusion to be performed and to form high concentration diffused layer uniformly, by providing an exhausting port at one end of a furnace core tube which is inserted in a heating furnace body, providing an opening part to which a cap can be attached at the other end, and providing a gas introducing port in the vicinity of the opening.

CONSTITUTION: The exhausting port 6 is provided at one end of e.g. th quartz furnace tube 2 which is inserted into the furnace body 1 and connected to a vacuum pump. the opening part 7 through which wafers are enclosed is provided at the other end of the furnace core tube 2. The inside of the tube 2 is kept at a pressure reduced state by the cap 3 through which drawing rod 4 is inserted in hermetically sealed state. The gas introducing port 8 is provided in th vicinity of the opening part 7 on the side of the furnace core tube 2, and desired gas can be supplied in the tube. A boat 9 on which e.g. BN plates 11 and the wafers 10 are mounted is enclosed in said furnace core tube 2, and B2O3 is predeposited under the pressure reduced state at a low temperature. Then very small amount of oxygen is introduced and a B glass layer is formed. Thereafter, treatment is performed in the reduced pressure atmosphere at a high temperature, and a shallow B diffused layer with high concentration is uniformly formed on each wafer.

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